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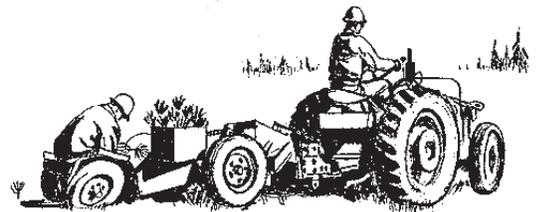
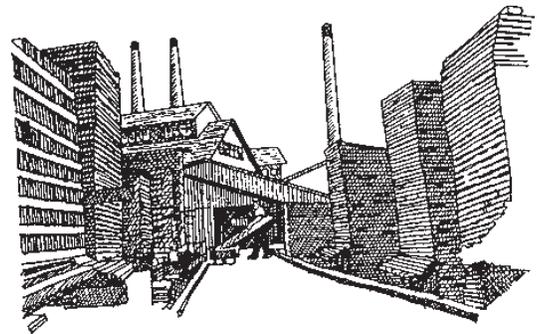
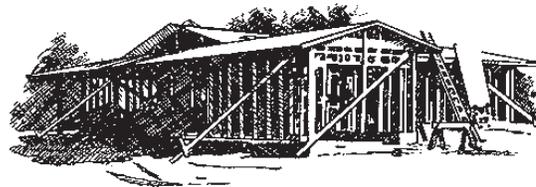
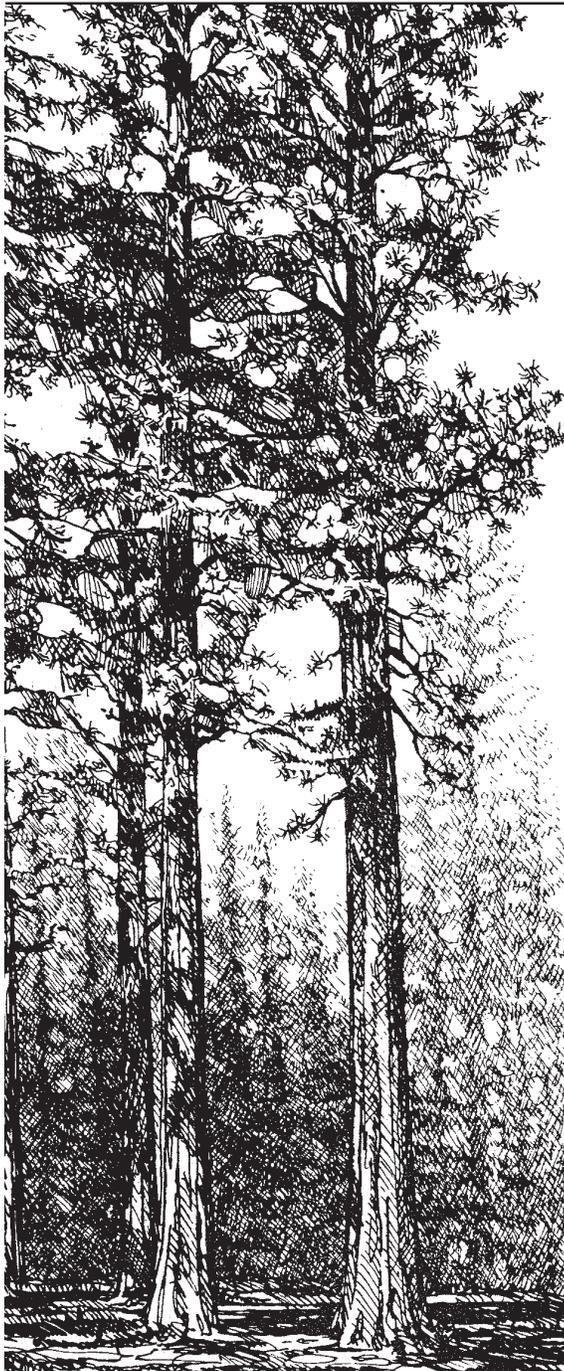


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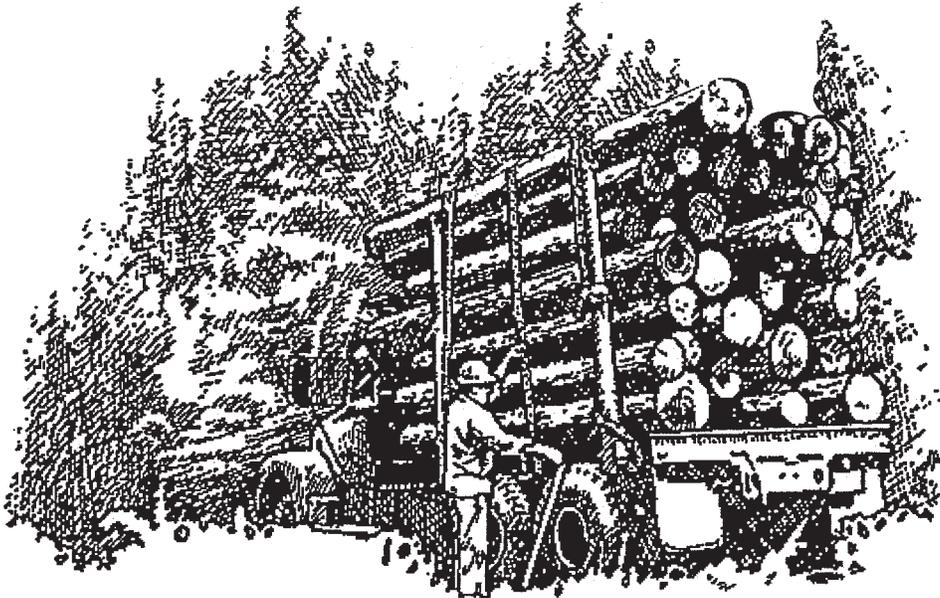
Arkansas' Timber Industry— An Assessment of Timber Product Output and Use, 2002

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Foreword

This bulletin contains the findings of a 2002 sample survey of all primary wood-using plants in Arkansas, and presents changes in product output and residue use since 1999. It complements the Forest Inventory and Analysis periodic inventory of volume and removals from the State's timberland. The canvass was conducted to determine the amount and source of wood receipts and annual timber product drain, by county, in 2002 and to determine interstate and cross-regional movement of industrial roundwood. Only primary wood-using mills were canvassed. Primary mills are those that process roundwood in log or bolt form or as chipped roundwood. Examples of industrial roundwood products are saw logs, pulpwood, veneer logs, poles, and logs used for composite board products. Mills producing products from residues generated at primary and secondary processors were not canvassed. Trees chipped in the woods were included in the estimate of timber drain only if they were delivered to a primary domestic manufacturer.

A canvass of wood processors in Arkansas was conducted in 2003 to obtain information for 2002. In addition, roundwood from out-of-State mills known to be using logs or bolts harvested from Arkansas timberland was incorporated into Arkansas production estimates. Each mill was canvassed by mail or through personal contact at plant locations. Telephone contacts followed mailed questionnaire responses when additional information or clarification

of a response was necessary. In the event of a nonresponse, data collected in previous surveys were updated using current data collected for mills of similar size, product type, and location. Surveys for all timber products other than pulpwood began in 1948, and are currently conducted every 3 years.

Pulpwood production data were taken from an annual canvass of all southeastern pulpmills. Medium density fiberboard, insulating board, and hardboard plants were included in this survey.

Acknowledgments

The authors thank Richard Bohnen for review and comments; Anne Jenkins, Janet Griffin, Sharon Johnson, and Lyn Thornhill for tables, graphs, maps, and statistical checking; and Paul Smith, Diana Corbin, and Louise Wilde for editorial review, styling, and publication of this bulletin.

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^a All tables in this report are available in Microsoft® Excel workbook files. Upon request, these files will be supplied on 3½-inch diskettes.

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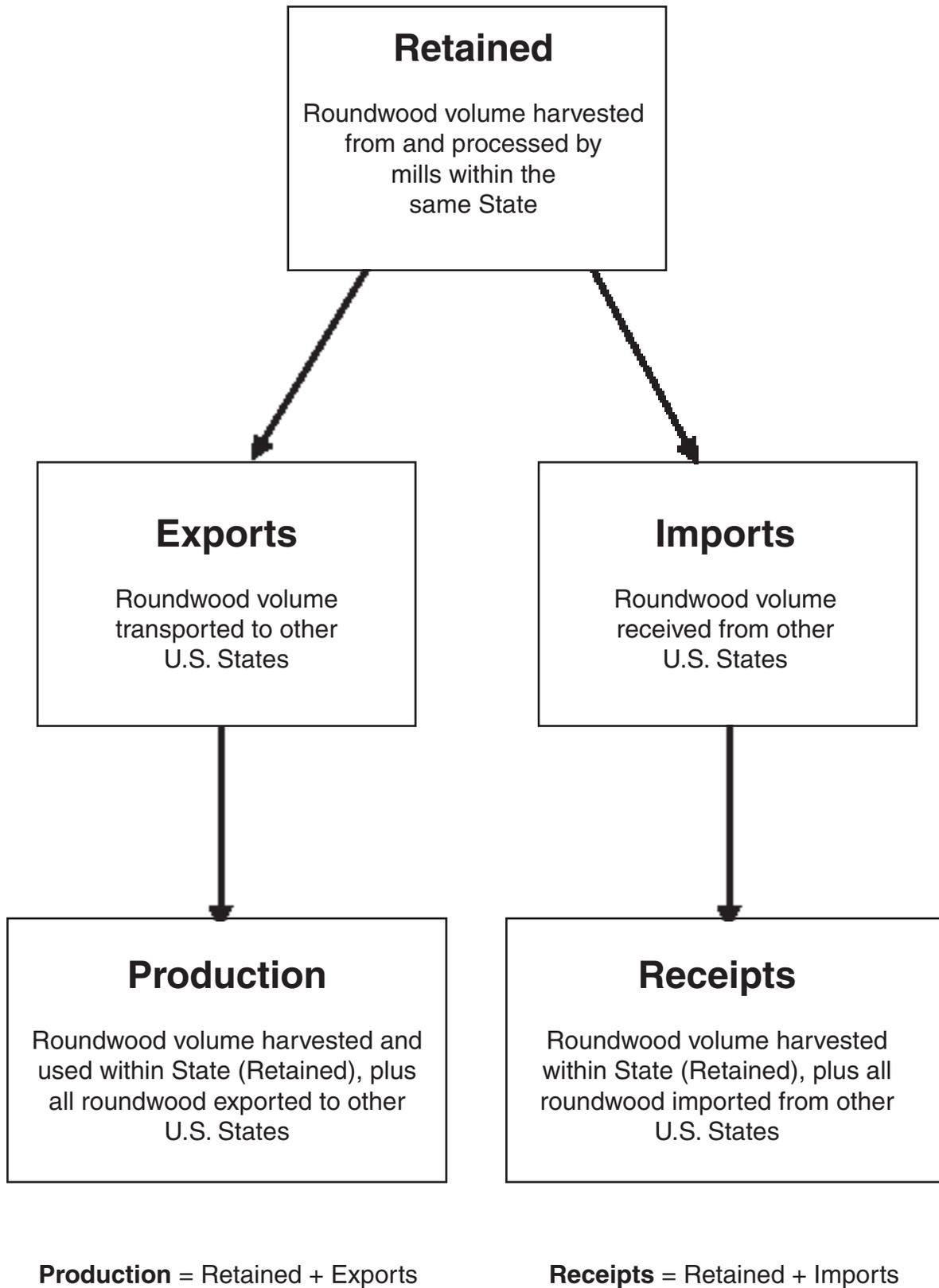


Figure 1—Movement of roundwood exports and imports within the United States.

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Output of Industrial Timber Products

Note: The reader should understand that certain terms—retained, export, import, production, and receipts—have specialized meanings and relationships unique to the Forest Inventory and Analysis Research Work Units across the country that deal with timber product output (fig. 1).

All Products

- The combined industrial timber product output (TPO) from roundwood and plant byproducts increased from 981 million cubic feet in 1999 to 1.01 billion cubic feet in 2002.
- TPO from roundwood totaled 680 million cubic feet, a decrease of 12 million cubic feet, or 2 percent, while

output of plant byproducts increased 37 million cubic feet, or 13 percent, to 326 million cubic feet.

- Output of softwood roundwood products increased 2 percent to 507 million cubic feet, while output of hardwood roundwood products was down 12 percent to 173 million cubic feet (fig. 2).
- Figures 3 and 4 display softwood and hardwood county-level intensity of roundwood production for all industrial products across Arkansas. The data are depicted in cubic feet produced per acre of census land area. Counties with the highest production intensity are depicted in the darker shades. For softwoods the darkest shade represents more than 45 cubic feet of production per acre, while for

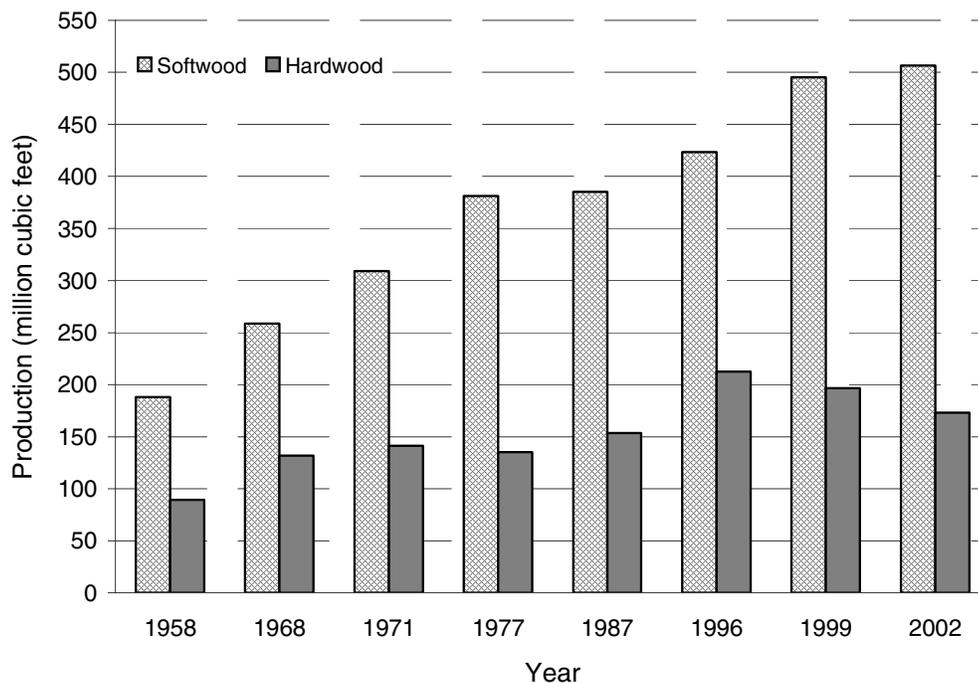


Figure 2—Roundwood production for all products by species group and year (see page 10 for references for individual years).

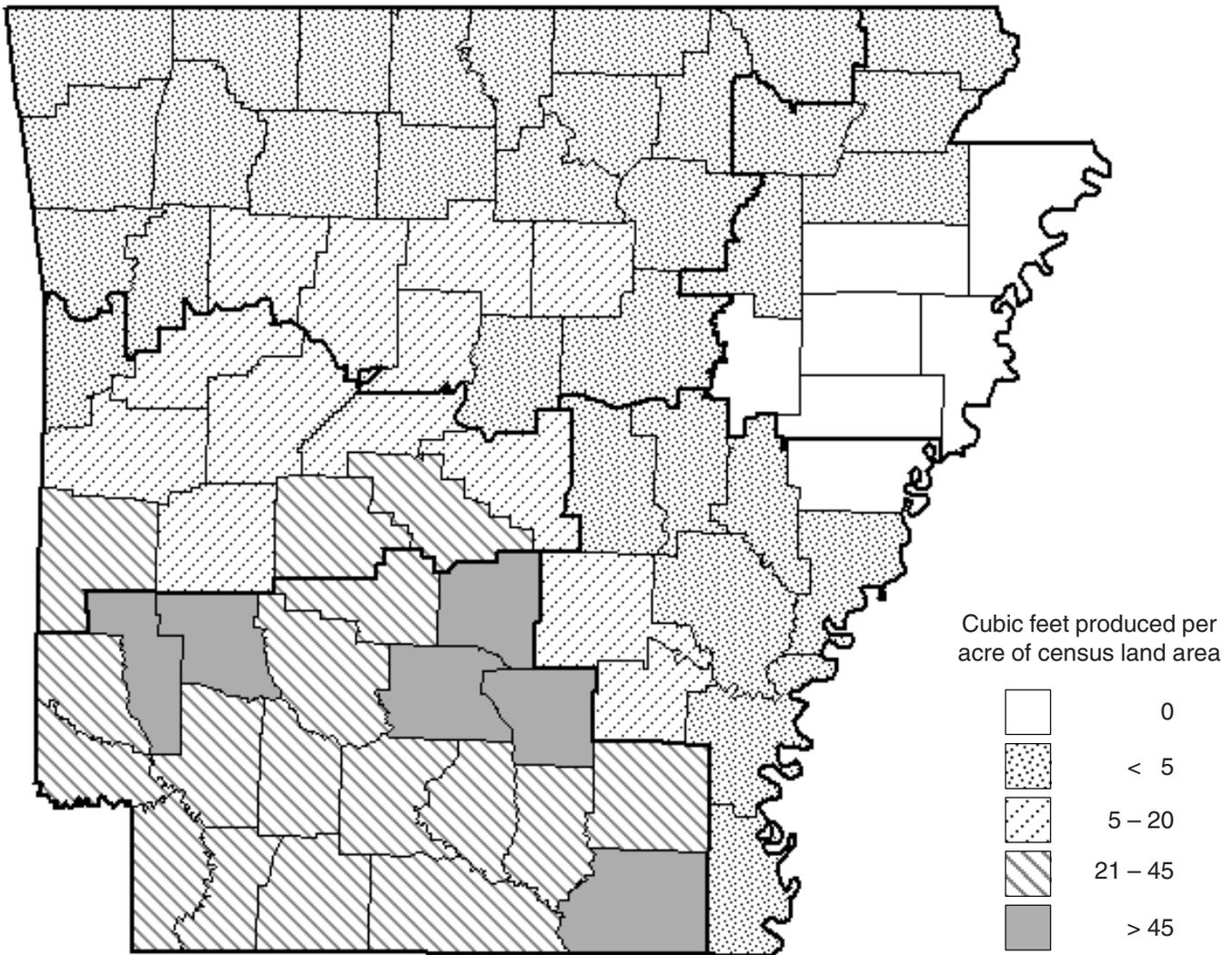


Figure 3—Intensity of roundwood softwood output for all industrial products in Arkansas by county, 2002.

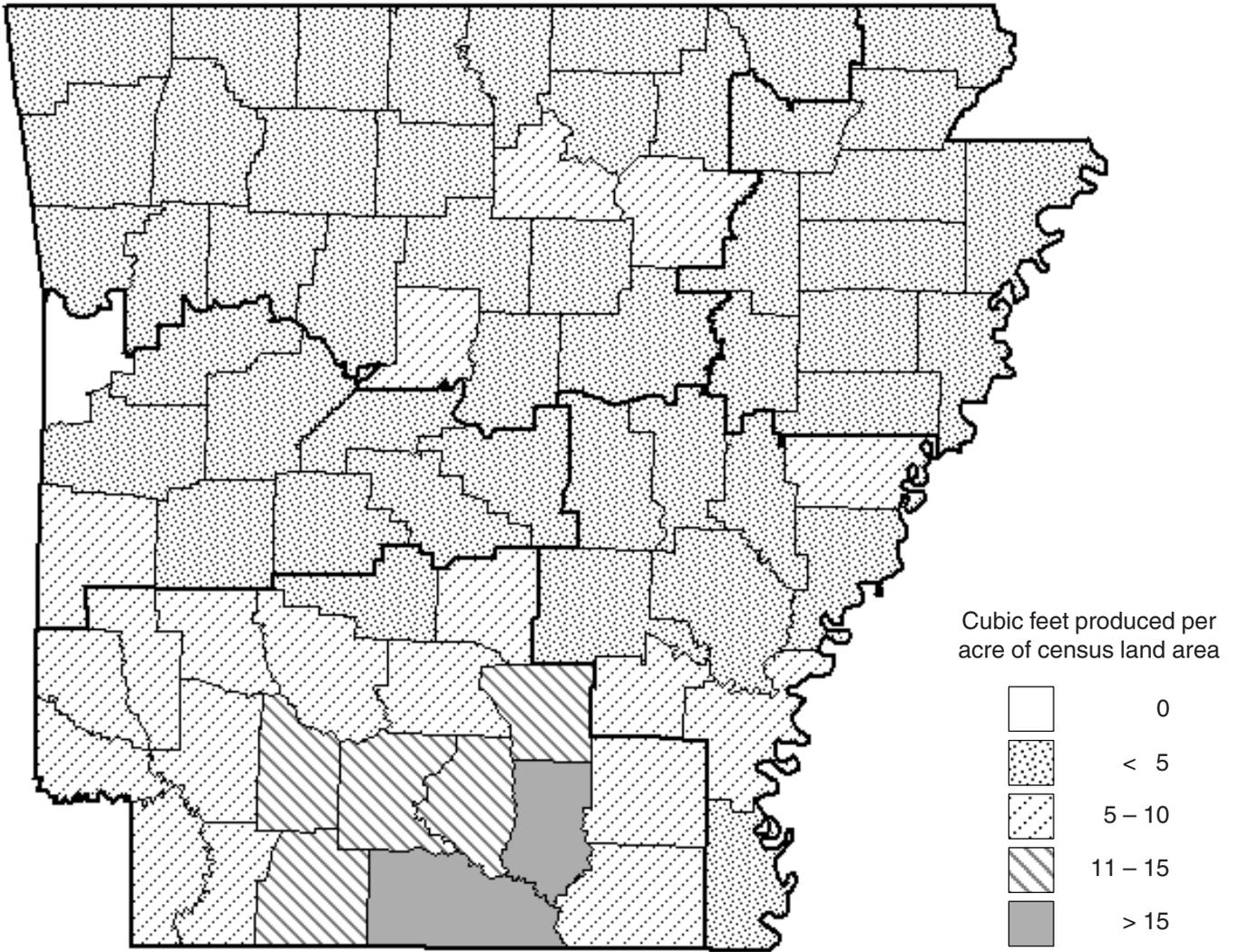


Figure 4—Intensity of roundwood hardwood output for all industrial products in Arkansas by county, 2002.

hardwoods the darkest shade represents more than 15 cubic feet per acre.

- Saw logs and pulpwood were the principal roundwood products in 2002. Together both totaled 555 million cubic feet and accounted for 81 percent of the State’s total roundwood output (fig. 5).
- Total receipts at Arkansas mills, which included roundwood harvested and retained in the State and roundwood imported from other States, was 721 million cubic feet. The number of primary roundwood-using plants in Arkansas was 288.

Saw Logs

- Saw logs accounted for 50 percent of the State’s total roundwood products. Output of softwood saw logs was 252 million cubic feet (1.4 billion board feet, International ¼-inch rule), while that of hardwood saw logs was 90 million cubic feet (540 million board feet, International ¼-inch rule) (fig. 6).
- In 2002, 132 sawmills were canvassed for this report. Those mills with production under 1 million board feet were not included. Total saw-log receipts increased 23 million cubic feet to 376 million cubic feet. Softwood receipts were up 8 percent to 285 million cubic feet, while

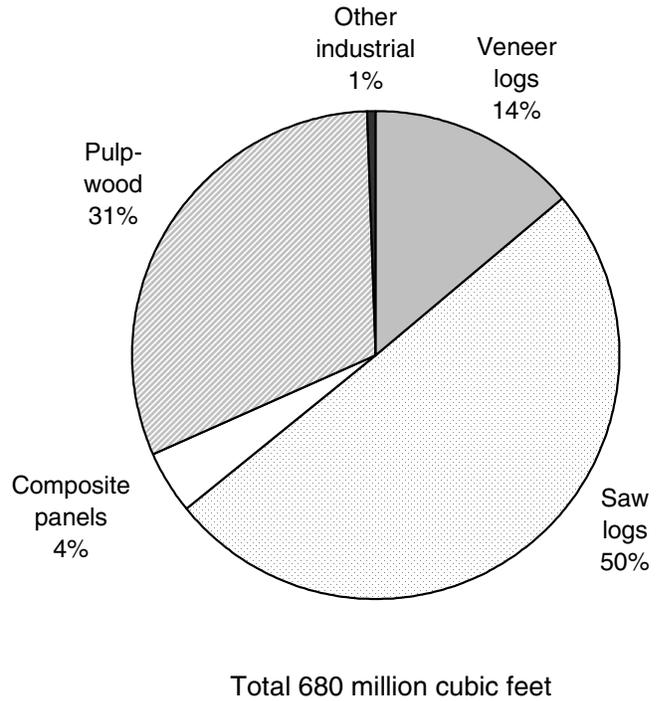


Figure 5—Roundwood production by type of product, 2002.

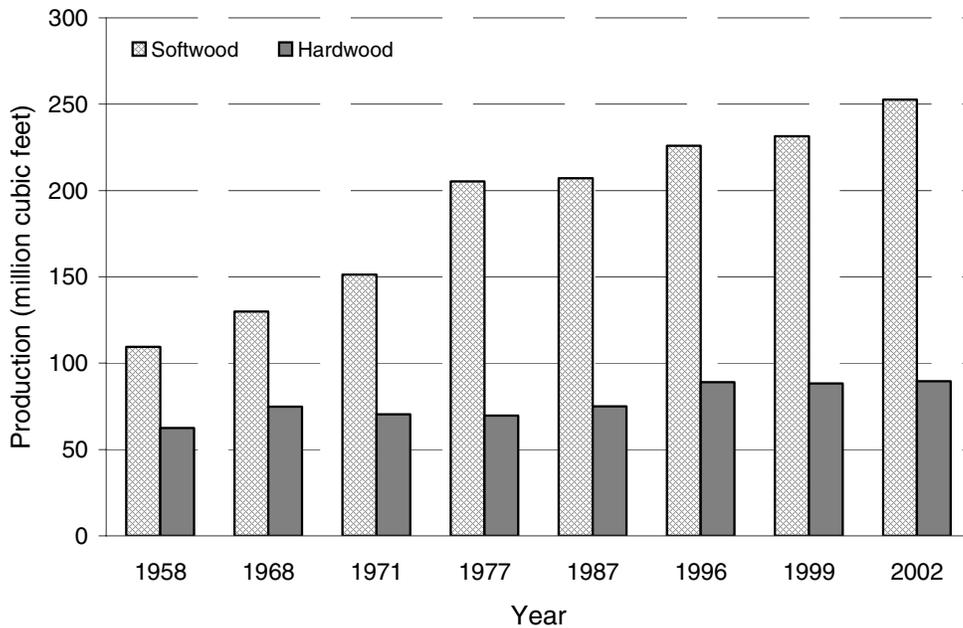


Figure 6—Roundwood saw-log production by species group and year (see page 10 for references for individual years).

hardwood receipts increased 1 percent to 90 million cubic feet. Of the 132 canvassed mills in 2002, 52 percent had receipts of <5 million board feet, while 26 percent had receipts >10 million board feet. Only 15 mills, or 11 percent, had receipts >50 million board feet, but these mills accounted for 66 percent of the sawmill receipts.

- Arkansas retained 95 percent of its saw-log production for domestic manufacture. Saw-log imports amounted to 49 million cubic feet, while exports totaled 16 million cubic feet in 2002, making the State a net importer of saw logs.

Pulpwood

- Total pulpwood production, including chipped roundwood, was down 72 million cubic feet, or 25 percent, to 213 million cubic feet (2.9 million cords) and accounted for 31 percent of the State's total roundwood TPO. Softwood output decreased 27 percent to 134 million cubic feet (1.9 million cords), while hardwood output declined 23 percent to 78 million cubic feet (1.02 million cords) (fig. 7).
- Six pulpmills were operating and receiving roundwood in 2002, a decrease of two mills since 1999. Total pulpwood receipts for these mills declined 22 million cubic feet to

210 million cubic feet, accounting for 29 percent of receipts for all mills.

- Seventy-one percent of roundwood cut for pulpwood was retained for processing at Arkansas pulpmills. Roundwood pulpwood accounted for 73 percent of total known exports and 47 percent of total imports. Roundwood pulpwood exports were 61 million cubic feet, while imports totaled 58 million cubic feet.

Veneer Logs

- Output of veneer logs in 2002 totaled 94 million cubic feet and accounted for 14 percent of the State's total roundwood TPO volume. Softwood veneer production increased 16 percent to 90 million cubic feet (515 million board feet, International ¼-inch rule), while output of hardwood veneer logs declined 18 percent to 5 million cubic feet (31 million board feet, International ¼-inch rule) (fig. 8).
- Between 1999 and 2002, the number of veneer mills operating in Arkansas remained at 10. Receipts of veneer logs increased 13 percent to 107 million cubic feet. Softwood veneer receipts were up 15 percent to 101 million cubic feet, while hardwood veneer receipts declined 16 percent to 6 million cubic feet.

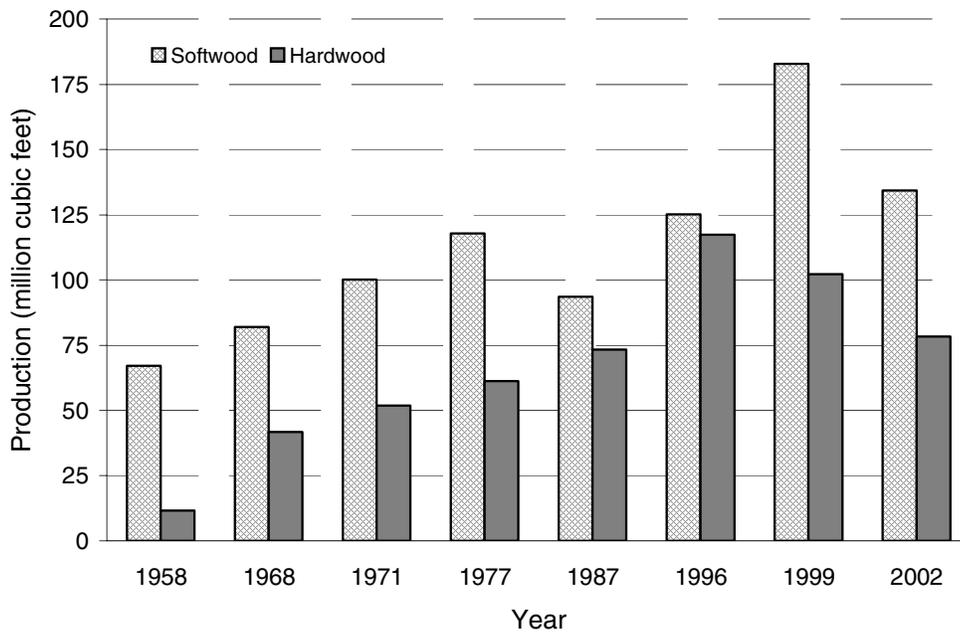


Figure 7—Roundwood pulpwood production by species group and year (see page 10 for references for individual years).

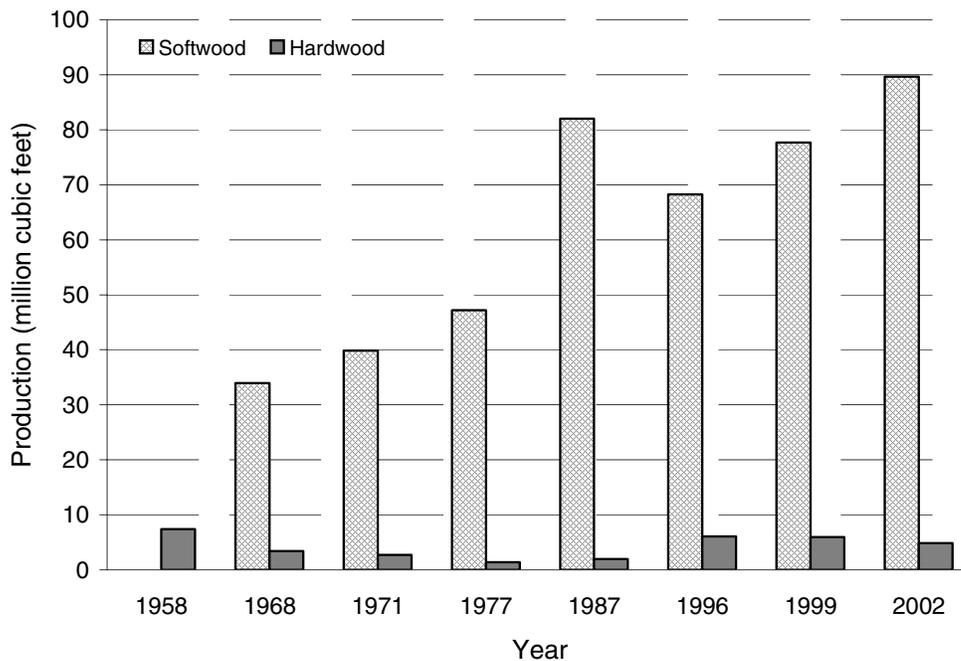


Figure 8—Roundwood veneer-log production by species group and year (see page 10 for references for individual years).

- Arkansas retained 95 percent of its veneer-log production for processing at domestic veneer mills. Imports totaled 17 million cubic feet, while exports totaled 5 million cubic feet, making the State a net importer of roundwood veneer logs.

Composite Panels

- Roundwood harvested from Arkansas' forests for composite panels increased 26.7 million cubic feet to 27 million cubic feet (373,954 cords). This large increase was due to the opening of Arkansas' first oriented strand board mill in Calhoun County. Softwood output accounted for 99 percent of the composite panel production in Arkansas.

Other Industrial Products

- Roundwood harvested for other industrial uses such as poles, posts, firewood, logs for log homes, and other industrial products, increased 12 percent to 3 million cubic feet. Softwood constituted 99 percent of the other industrial product volume (fig. 9).
- Eleven plants manufactured other industrial products, an increase of one since 1999. Total receipts of other

industrial products increased 26 million cubic feet to 29 million cubic feet.

- Exports of other industrial products amounted to 2.2 million cubic feet, while imports totaled 371 thousand cubic feet, making the State a net exporter of roundwood used for other industrial products.

Plant Byproducts

- In 2002, processing of primary products in Arkansas mills generated 326 million cubic feet of wood and bark residues. Coarse residues from all primary products amounted to 151 million cubic feet, while bark volume totaled 67 million cubic feet. Sawdust and shavings constituted 33 percent of total residues, or 108 million cubic feet (fig. 10).
- Virtually all residues were used for a product (fig. 11). One hundred and twenty-five million cubic feet, or 83 percent, of the coarse residues were used for fiber products. Most bark was used as industrial fuel or miscellaneous products, while 73 percent of the sawdust and shavings was used for industrial fuel.

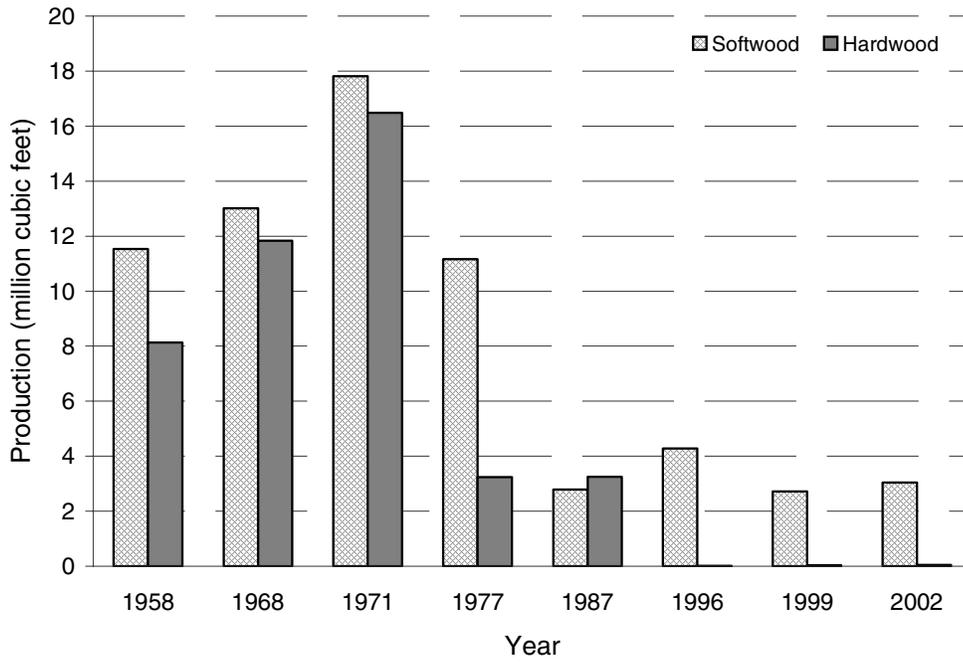


Figure 9—Roundwood production for other industrial products by species group and year (see page 10 for references for individual years).

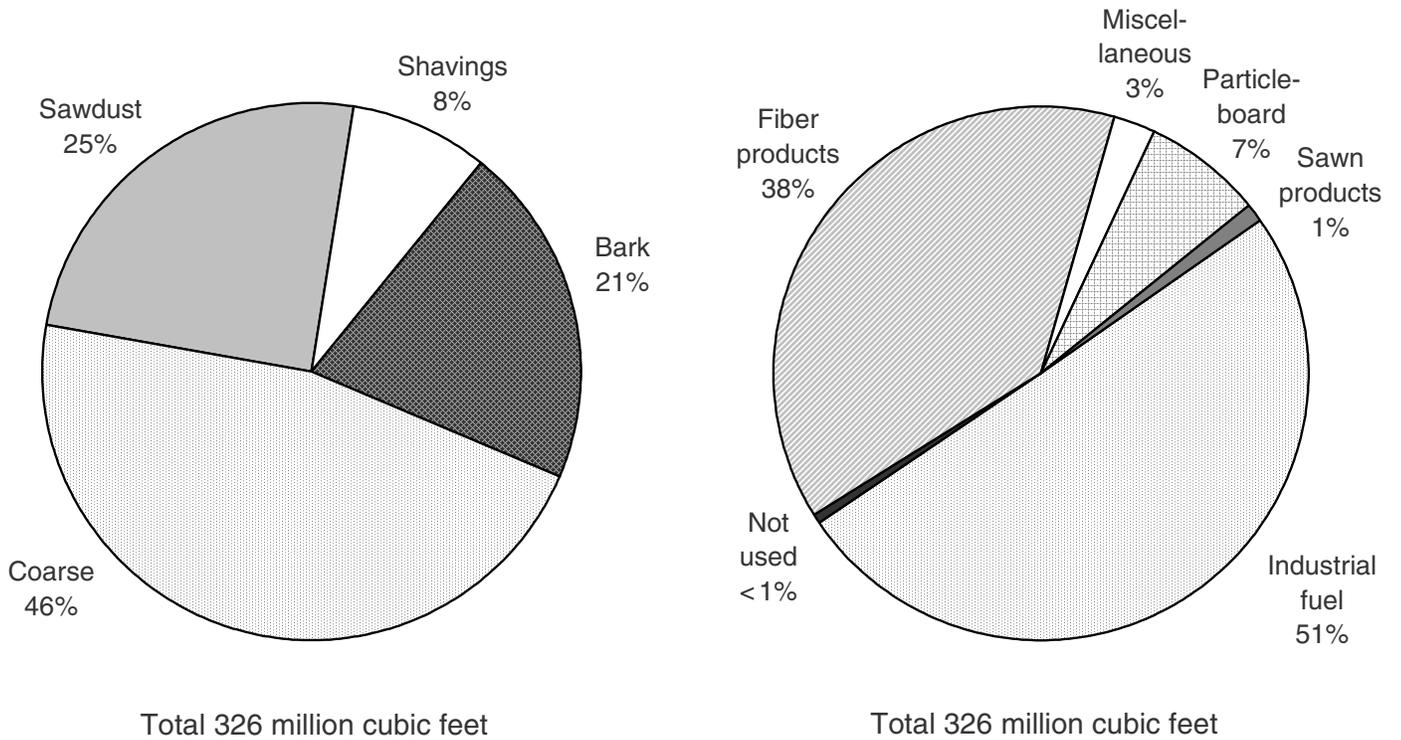


Figure 10—Primary mill residue by residue type, 2002.

Figure 11—Disposal of residue by product, 2002.

- The processing of saw logs generated 238 million cubic feet of residue, accounting for 73 percent of the total residue produced (fig. 12).

Regional Trends

South Delta Region

- Roundwood output from the South Delta region totaled 31 million cubic feet, a decline of 20 percent since 1999. Hardwood production was down 28 percent to 21 million cubic feet, however, softwood production increased 1 percent, or 94 thousand cubic feet, to 10 million cubic feet.
- Saw-log production of 12 million cubic feet accounted for 40 percent of the total roundwood output for the region. Pulpwood production of 13 million cubic feet, down 39 percent since 1999, accounted for 43 percent of the region's TPO and 6 percent of the State's roundwood pulpwood output.
- Fourteen primary wood-using plants were operating in the South Delta region during 2002: 10 sawmills, 3 pulpmills,

and 1 veneer or plywood mill. These mills processed 5 percent of the State's total roundwood output.

North Delta Region

- Nine million cubic feet of roundwood were produced in the North Delta region, a decline of 3 percent since 1999. Softwood production was down 93 percent to 95 thousand cubic feet, while hardwood increased 10 percent to 9.3 million cubic feet.
- Saw-log production declined 11 percent to 7 million cubic feet and accounted for 79 percent of the total roundwood output for the region. Pulpwood production increased 535 thousand cubic feet to 1.1 million cubic feet and only accounted for 11 percent of the region's TPO and < 1 percent of the State's roundwood pulpwood output.
- Twenty-eight primary wood-using mills were operating in the North Delta region in 2002: 27 sawmills and 1 other miscellaneous mill. These mills processed 1 percent of the State's total roundwood output.

Southwest Region

- Roundwood output from the Southwest region of Arkansas totaled 475 million cubic feet, a decrease of 2 percent since 1999. Roundwood production from this region accounted for 70 percent of the total roundwood TPO for the State. Softwood production was up 3 percent to 389 million cubic feet, while hardwood output dropped 19 percent to 86 million cubic feet.
- Saw-log production was up 10 percent to 225 million cubic feet and accounted for 47 percent of the region's total roundwood output and 66 percent of the State's saw-log production. Pulpwood production decreased 29 percent to 150 million cubic feet and accounted for 32 percent of the region's total TPO and 71 percent of the State's total pulpwood production.
- The 75 primary wood-using plants operating in the Southwest region included: 62 sawmills, 6 veneer or plywood mills, 2 pulpmills, and 5 other miscellaneous mills.

Ouachita Region

- Roundwood output from the Ouachita region totaled 99.5 million cubic feet, a decrease < 1 percent since 1999. Softwood production was up 411 thousand cubic feet to 84 million cubic feet, while hardwood production dropped 3 percent to 15.7 million cubic feet.

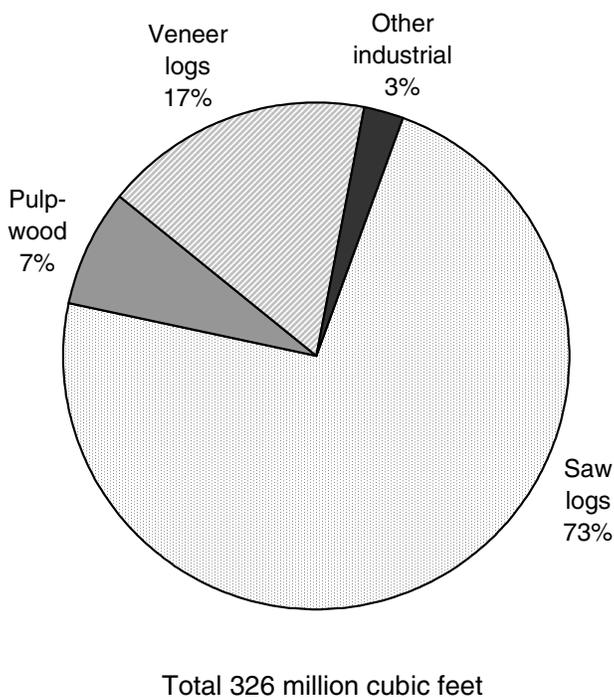


Figure 12—Primary mill residue produced by roundwood type, 2002.

- Saw-log production increased 5 percent to 53 million cubic feet and accounted for 53 percent of the region's total roundwood output. Pulpwood production decreased 14 percent to 28 million cubic feet and accounted for 28 percent of the region's total TPO.
- Thirty-eight primary wood-using plants were operating during 2002: 32 sawmills, 3 veneer or plywood mills, and 3 other miscellaneous mills. These mills processed 15 percent of the State's total roundwood output.

Ozark Region

- Sixty-five million cubic feet of roundwood were produced in the Ozark region, an increase of 6 percent. Softwood production was down 2 percent to 24 million cubic feet, while hardwood production increased 11 percent to 41 million cubic feet.
- Saw-log production increased 2 percent to 45 million cubic feet and accounted for 68 percent of the region's total roundwood output. Pulpwood production increased 16 percent to 20 million cubic feet and accounted for 31 percent of the region's total TPO.
- One hundred and thirty-three primary wood-using plants were operating in the Ozark region during 2002: 129 sawmills, 1 pulpmill, and 3 other miscellaneous mills. These mills processed 10 percent of the State's total roundwood output.

Total Roundwood Output

Using the most recent inventory data for Arkansas, product output by source, ownership, and detailed species group were estimated.

Source

- In addition to the 680 million cubic feet of roundwood output for industrial roundwood, an estimated 28 million cubic feet were harvested for domestic fuelwood, bringing Arkansas's total roundwood output to 707 million cubic feet.
- Ninety-two percent of total roundwood output was considered growing-stock volume (sawtimber and poletimber) from timberland sources. Other sources (such as saplings; stumps, tops, and limbs of trees on timberland;

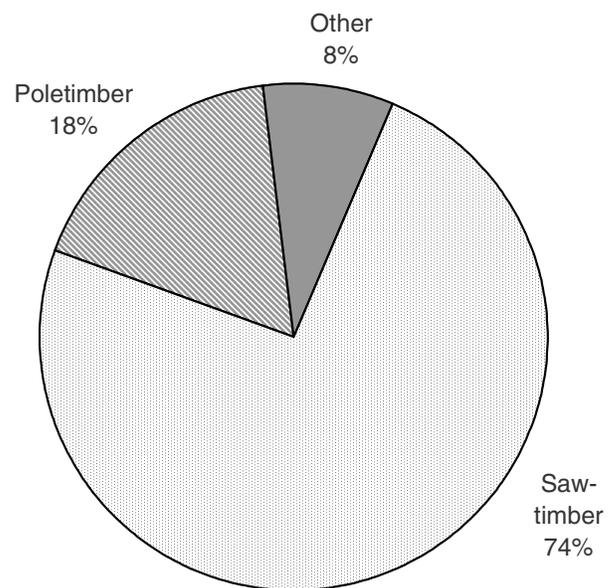
and trees on nonforest land) contributed an estimated 58 million cubic feet, or 8 percent of total roundwood output (fig. 13).

Ownership

- Nonindustrial private forestlands contributed 350 million cubic feet, or 49 percent, of the total roundwood output, while forest industry lands accounted for 324 million cubic feet, or 46 percent of the total output. Public lands made up the remaining 5 percent, or 33 million cubic feet (fig. 14).

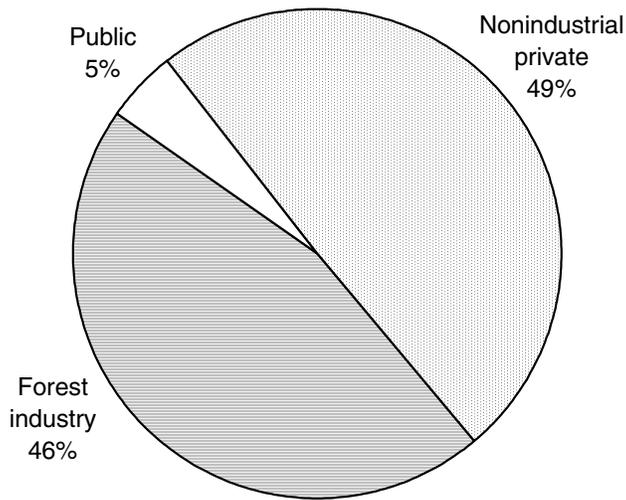
Species

- The loblolly and shortleaf pine group provided the most volume of any softwood species group, accounting for 99 percent of the total softwood output (fig. 15). The cedar, cypress, and other pine types accounted for the remaining 1 percent of the softwood output. In hardwoods, the red oak and white oak groups combined accounted for 112 million cubic feet, or 57 percent of total hardwood output (fig. 16).



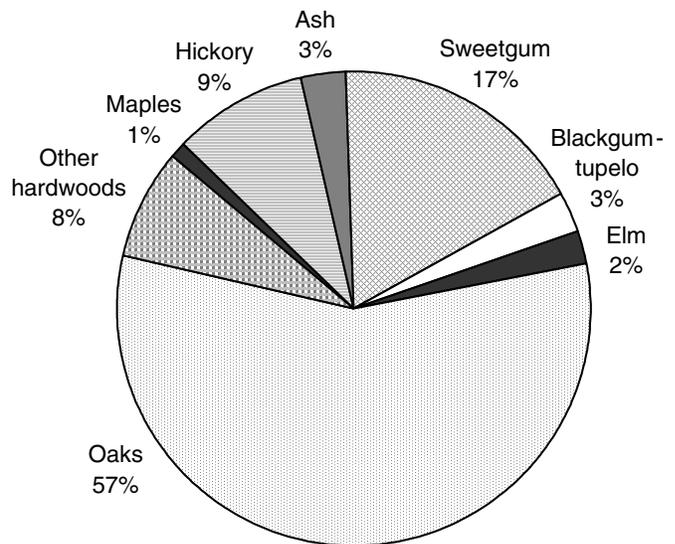
Total 707 million cubic feet

Figure 13—Roundwood output by source, 2002.



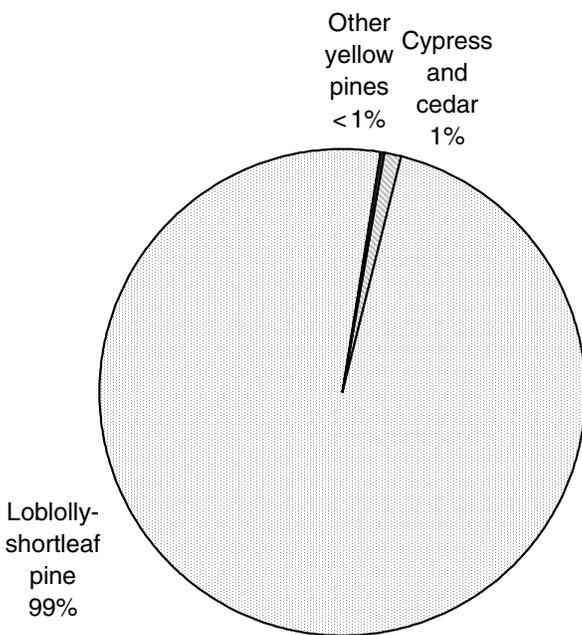
Total 707 million cubic feet

Figure 14—Roundwood output by ownership, 2002.



Total 197 million cubic feet

Figure 16—Roundwood output by hardwood species group, 2002.



Total 510 million cubic feet

Figure 15—Roundwood output by softwood species group, 2002.

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Glossary

Board foot. A unit of measure applied to lumber that is 1-foot long, 1-foot wide, and 1-inch thick (or its equivalent) and also associated with roundwood as to its potential yield of such products.

Byproducts. Primary wood products, e.g., pulp chips, animal bedding, and fuelwood, recycled from mill residues.

Composite panels. Roundwood products manufactured into chips, wafers, strands, flakes, shavings, or sawdust and then reconstituted into a variety of panel and engineered lumber products.

Consumption. The quantity of a commodity, such as pulpwood, utilized by a particular mill or group of mills.

Drain. The volume of roundwood removed from any geographic area where timber is grown.

Exports. The volume of domestic roundwood utilized by mills outside the State where timber was cut.

Fiber products. Byproducts used in the manufacture of pulp, paper, paperboard, and composite products, such as chipboard.

Fuelwood production. The volume of roundwood harvested to produce some form of energy, e.g., heat, and steam, in residential, industrial, or institutional settings.

Growing-stock removals. The growing-stock volume removed from poletimber and sawtimber trees in the timberland inventory. (Note: Includes volume removed for roundwood products, logging residues, and other removals.)

Growing-stock trees. Living trees of commercial species classified as sawtimber, poletimber, saplings, and seedlings. Growing-stock trees must contain at least one 12-foot or two 8-foot logs in the saw-log portion, currently or potentially (if too small to qualify). The log(s) must meet dimension and merchantability standards and have, currently or potentially, one-third of the gross board-foot volume in sound wood.

Growing-stock volume. The cubic-foot volume of sound wood in growing-stock trees at least 5.0 inches d.b.h. from a 1-foot stump to a minimum 4.0-inch top d.o.b. of the central stem.

Hardwoods. Dicotyledonous trees, usually broadleaf and deciduous.

Soft hardwoods. Hardwood species with an average specific gravity of 0.50 or less, such as gums, yellow-poplar, cottonwoods, red maple, basswoods, and willows.

Hard hardwoods. Hardwood species with an average specific gravity >0.50, such as oaks, hard maples, hickories, and beech.

Imports. The volume of domestic roundwood delivered to a mill or group of mills in a specific State but harvested outside that State.

Industrial fuelwood. A roundwood product, with or without bark, used to generate energy at a manufacturing facility such as a wood-using mill.

Industrial roundwood products. Any primary use of the main stem of a tree, such as saw logs, pulpwood, and veneer logs, intended to be processed into primary wood products such as lumber, wood pulp, and sheathing, at primary wood-using mills.

International ¼-inch rule. A log rule or formula for estimating the board-foot volume of logs, allowing ½-inch of taper for each 4-foot length. The rule appears in a number of forms that allow for kerf. In the form used by FIA, a ¼-inch of kerf is assumed. This rule is used as the USDA Forest Service standard log rule in the Eastern United States.

Log. A primary forest product harvested in long, primarily 8-, 12-, and 16-foot lengths.

Logging residues. The unused merchantable portion of growing-stock trees cut or destroyed during logging operations.

Merchantable portion. That portion of live trees 5.0 inches d.b.h. and larger between a 1-foot stump and a minimum 4.0-inch top d.o.b. on the central stem. That portion of primary forks from the point of occurrence to a minimum 4.0-inch top d.o.b. is included.

Merchantable volume. Solid-wood volume in the merchantable portion of live trees.

Noncommercial species. Tree species of typically small size, poor form, or inferior quality that normally do not develop into trees suitable for industrial wood products.

Nonforest land. Land that has never supported forests and land formerly forested where timber production is precluded by development for other uses.

Nongrowing-stock sources. The net volume removed from the nongrowing-stock portions of poletimber and sawtimber trees (stumps, tops, limbs, cull sections of central stem) and from any portion of a rough, rotten, sapling, dead, or nonforest tree.

Other forestland. Forestland other than timberland and productive reserved forestland. It includes available and reserved forestland that is incapable of producing annually 20 cubic feet per acre of industrial wood under natural conditions because of adverse site conditions such as sterile soils, dry climate, poor drainage, high elevation, steepness, or rockiness.

Other products. A miscellaneous category of roundwood products, e.g., cooperage, excelsior, shingles, and mill residue byproducts (charcoal, bedding, mulch, etc.).

Other removals. The growing-stock volume of trees removed from the inventory by cultural operations such as timber stand improvement, land clearing, and other changes in land use, resulting in the removal of the trees from timberland.

Other sources. (See: Nongrowing-stock sources.)

Ownership. The property owned by one ownership unit, including all parcels of land in the United States.

National forest land. Federal land that has been legally designated as national forests or purchase units, and other land under the administration of the Forest Service, including experimental areas and Bankhead-Jones Title III land.

Forest industry land. Land owned by companies or individuals operating primary wood-using plants.

Nonindustrial private forestland. Privately owned land excluding forest industry land.

Corporate. Owned by corporations, including incorporated farm ownerships.

Individual. All lands owned by individuals, including farm operators.

Other public. An ownership class that includes all public lands except national forests.

Miscellaneous Federal land. Federal land other than national forests.

State, county, and municipal land. Land owned by States, counties, and local public agencies or municipalities, or land leased to these governmental units for 50 years or more.

Plant residues. Wood material generated in the production of timber products at primary manufacturing plants.

Coarse residues. Material, such as slabs, edgings, trim, and veneer cores and ends, which is suitable for chipping.

Fine residues. Material, such as sawdust, shavings, and veneer residue, which is not suitable for chipping.

Plant byproducts. Residues (coarse or fine) used in the further manufacture of industrial products for consumer use, or as fuel.

Unused plant residues. Residues (coarse or fine) that are not used for any product, including fuel.

Posts, poles, and pilings. Roundwood products milled (cut or peeled) into standard sizes (lengths and circumferences) to be put in the ground to provide vertical and lateral support in buildings, foundations, utility lines, and fences. May also include nonindustrial (unmilled) products.

Poletimber-size trees. Softwoods 5.0 to 8.9 inches d.b.h. and hardwoods 5.0 to 10.9 inches d.b.h.

Primary wood-using plants. Industries that convert roundwood products (saw logs, veneer logs, pulpwood, etc.) into primary wood products, such as lumber, veneer or sheathing, wood pulp.

Production. The total volume of known roundwood harvested from land within a State, regardless of where it is

consumed. Production is the sum of timber harvested and used within a State, and all roundwood exported to other States.

Pulpwood. A roundwood product that will be reduced to individual wood fibers by chemical or mechanical means. The fibers are used to make a broad generic group of pulp products that includes paper products, as well as fiber-board, insulating board, and paperboard.

Receipts. The quantity or volume of industrial roundwood received at a mill or by a group of mills in a State, regardless of the geographic source. Volume of roundwood receipts is equal to the volume of roundwood retained in a State plus roundwood imported from other States.

Retained. Roundwood volume harvested from and processed by mills within the same State.

Rotten trees. Live trees of commercial species not containing at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of rot or missing sections, and with less than one-third of the gross board-foot tree volume in sound material.

Rough trees. Live trees of commercial species not containing at least one 12-foot saw log, or two noncontiguous saw logs, each 8 feet or longer, now or prospectively, primarily because of roughness, poor form, splits, and cracks, and with less than one-third of the gross board-foot tree volume in sound material; and live trees of noncommercial species.

Roundwood (roundwood logs). Logs, bolts, or other round sections cut from trees for industrial manufacture or consumer uses.

Roundwood chipped. Any timber cut primarily for industrial manufacture, delivered to nonpulpmills, chipped, and then sold to pulpmills for use as fiber. Includes tops, jump sections, whole trees, and pulpwood sticks.

Roundwood products. Any primary product, such as lumber, veneer, composite panels, poles, pilings, pulp, or fuelwood that is produced from roundwood.

Roundwood product drain. That portion of total drain used for a product.

Salvable dead trees. Standing or downed dead trees that were formerly growing stock and considered merchantable. Trees must be at least 5.0 inches d.b.h. to qualify.

Saplings. Live trees 1.0 to 5.0 inches d.b.h.

Saw log. A roundwood product, usually 8 feet in length or longer, processed into a variety of sawn products such as lumber, cants, pallets, railroad ties, and timbers.

Saw-log portion. The part of the bole of sawtimber trees between a 1-foot stump and the saw-log top.

Saw-log top. The point on the bole of sawtimber trees above which a conventional saw log cannot be produced. The minimum saw-log top is 7.0 inches d.o.b. for softwoods and 9.0 inches d.o.b. for hardwoods for FIA standards.

Sawtimber-size trees. Softwoods 9.0 inches d.b.h. and larger and hardwoods 11.0 inches d.b.h. and larger.

Sawtimber volume. Growing-stock volume in the saw-log portion of sawtimber-sized trees in board feet (International ¼-inch rule).

Seedlings. Trees < 1.0 inch d.b.h. and > 1 foot tall for hardwoods, > 6 inches tall for softwood, and > 0.5 inch in diameter at ground level for longleaf pine.

Select red oaks. A group of several red oak species composed of cherrybark, Shumard, and northern red oaks. Other red oak species are included in the “other red oaks” group.

Select white oaks. A group of several white oak species composed of white, swamp chestnut, swamp white, chinkapin, Durand, and bur oaks. Other white oak species are included in the “other white oaks” group.

Softwoods. Coniferous trees, usually evergreen, having leaves that are needles or scalelike.

Standard cord. A unit of measure applied to roundwood, usually bolts or split wood. It is a stack of wood 4 feet high, 4 feet wide, and 8 feet long encompassing 128 cubic feet of wood, bark, and air space. This usually translates to approximately 75.0 to 81.0 cubic feet of solid wood for pulpwood, because pulpwood is more uniform.

Standard unit. A unit measure applied to roundwood timber products. Board feet (International 1/4-inch rule) is the standard unit used for saw logs and veneer; cords are used for pulpwood, composite panel, and fuelwood; hundred pieces for poles; thousand pieces for posts; and thousand cubic feet for all other miscellaneous forest products.

Timberland. Forest land capable of producing 20 cubic feet of industrial wood per acre per year and not withdrawn from timber utilization.

Timber products. Roundwood products and byproducts.

Timber product output. The total volume of roundwood products from all sources plus the volume of byproducts recovered from mill residues (equals roundwood product drain).

Timber removals. The total volume of trees removed from the timberland inventory by harvesting, cultural operations such as stand improvement, land clearing, or changes in land use. (Note: Includes roundwood products, logging residues, and other removals.)

Metric Equivalents

1 acre = 4,046.86 m ² or 0.404686 ha
1 cubic foot = 0.028317 m ³
1 inch = 2.54 cm or 0.0254 m
Breast height = 1.4 m above the ground
1 square foot = 929.03 cm ² or 0.0929 m ²
1 square foot per basal area = 0.229568 m ² /ha
1 pound = 0.454 kg
1 ton = 0.907 mt

Tree. Woody plants having one erect perennial stem or trunk at least 3 inches d.b.h., a more or less definitely formed crown of foliage, and a height of at least 13 feet (at maturity).

Upper-stem portion. The part of the main stem of saw-timber trees above the saw-log top and the minimum top diameter of 4.0 inches outside bark, or to the point where the main stem breaks into limbs.

Utilization studies. Studies conducted on active logging operations to develop factors for merchantable portions of trees left in the woods (logging residues), logging damage, and utilization of the unmerchantable portion of growing-stock trees and nongrowing-stock trees.

Veneer log. A roundwood product either rotary cut, sliced, stamped, or sawn into a variety of veneer products such as plywood, finished panels, veneer sheets, or sheathing.

Weight. A unit of measure for mill residues, expressed as oven-dry tons (2,000 oven-dry pounds).

Conversion Factors^a

Saw logs	
Softwood	0.18018 cubic foot = 1 board foot 5.55 board feet = 1 cubic foot
Hardwood	0.16556 cubic foot = 1 board foot 6.04 board feet = 1 cubic foot
Veneer logs	
Softwood	0.17391 cubic foot = 1 board foot 5.75 board feet = 1 cubic foot
Hardwood	0.15873 cubic foot = 1 board foot 6.30 board feet = 1 cubic foot
Pulpwood ^b	
Softwood	72.5 cubic feet per cord
Hardwood	76.6 cubic feet per cord

^a Conversion factors vary with stem size (d.b.h.) and species.

^b Cubic feet of solid wood per cord.

Species List^a

Common name	Scientific name ^b	Common name	Scientific name ^b
Softwoods		Hardwoods (continued)	
Southern redcedar	<i>Juniperus silicicola</i> (Small) Bailey	Sweetgum	<i>Liquidambar styraciflua</i> L.
Eastern redcedar	<i>J. virginiana</i> L.	Yellow-poplar	<i>Liriodendron tulipifera</i> L.
Shortleaf pine	<i>Pinus echinata</i> Mill.	Osage-orange	<i>Maclura pomifera</i> (Raf.) Schneid.
Loblolly pine	<i>P. taeda</i> L.	Cucumbertree	<i>Magnolia acuminata</i> L.
Baldcypress	<i>Taxodium distichum</i> (L.) Rich.	Bigleaf magnolia	<i>M. macrophylla</i> Michx.
Hardwoods		Sweetbay	<i>M. virginiana</i> L.
Florida maple	<i>Acer barbatum</i> Michx.	Apple	<i>Malus</i> spp.
Boxelder	<i>A. negundo</i> L.	Chinaberry	<i>Melia azedarach</i> L.
Red maple	<i>A. rubrum</i> L.	White mulberry	<i>Morus alba</i> L.
Silver maple	<i>A. saccharinum</i> L.	Red mulberry	<i>M. rubra</i> L.
Buckeye	<i>Aesculus</i> spp.	Water tupelo	<i>Nyssa aquatica</i> L.
Ohio buckeye	<i>A. glabra</i> Willd.	Blackgum	<i>N. sylvatica</i> Marsh.
Ailanthus	<i>Ailanthus altissima</i> (Mill.) Swingle	Swamp tupelo	<i>N. sylvatica</i> var. <i>biflora</i> (Walt.) Sarg.
Tung-oil tree	<i>Aleurites fordii</i> Hemsl.	Eastern hophornbeam	<i>Ostrya virginiana</i> (Mill.) K. Koch
Serviceberry	<i>Amelanchier</i> spp.	American sycamore	<i>Platanus occidentalis</i> L.
River birch	<i>Betula nigra</i> L.	Cottonwood	<i>Populus</i> spp.
American hornbeam	<i>Carpinus caroliniana</i> Walt.	Black cherry	<i>Prunus serotina</i> Ehrh.
Hickory	<i>Carya</i> spp.	White oak	<i>Quercus alba</i> L.
Water hickory	<i>C. aquatica</i> (Michx. f.) Nutt.	Durand oak	<i>Q. durandii</i> Buckl.
Bitternut hickory	<i>C. cordiformis</i> (Wangenh.) K. Koch	Southern red oak	<i>Q. falcata</i> Michx.
Pignut hickory	<i>C. glabra</i> (Mill.) Sweet	Cherrybark oak	<i>Q. falcata</i> var. <i>pagodifolia</i> Ell.
Pecan	<i>C. illinoensis</i> (Wangenh.) K. Koch	Bluejack oak	<i>Q. incana</i> Bartr.
Shellbark hickory	<i>C. laciniosa</i> (Michx. f.) Loud.	Laurel oak	<i>Q. laurifolia</i> Michx.
Nutmeg hickory	<i>C. myristiciformis</i> (Mich. f.) Nutt.	Overcup oak	<i>Q. lyrata</i> Walt.
Shagbark hickory	<i>C. ovata</i> (Mill.) K. Koch	Bur oak	<i>Q. Macrocarpa</i> Michx.
Black hickory	<i>C. texana</i> Buckl.	Swamp chestnut oak	<i>Q. michauxii</i> Nutt.
Mockernut hickory	<i>C. tomentosa</i> (Poir.) Nutt.	Chinkapin oak	<i>Q. muehlenbergii</i> Engelm.
Allegheny chinkapin	<i>Castanea pumila</i> Mill.	Water oak	<i>Q. nigra</i> L.
Chinkapin	<i>Castanopsis</i> (D. Don) Spach	Nuttall oak	<i>Q. nuttallii</i> Palmer
Catalpa	<i>Catalpa</i> spp.	Pin oak	<i>Q. palustris</i> Muenchh.
Sugarberry	<i>Celtis laevigata</i> Willd.	Willow oak	<i>Q. phellos</i> L.
Hackberry	<i>C. occidentalis</i> L.	Northern red oak	<i>Q. rubra</i> L.
Eastern redbud	<i>Cercis canadensis</i> L.	Shumard oak	<i>Q. shumardii</i> Buckl.
Flowering dogwood	<i>Cornus florida</i> L.	Post oak	<i>Q. stellata</i> Wangenh.
Hawthorn	<i>Crataegus</i> spp.	Black oak	<i>Q. velutina</i> Lam.
Common persimmon	<i>Diospyros virginiana</i> L.	Black locust	<i>Robinia pseudoacacia</i> L.
American beech	<i>Fagus grandifolia</i> Ehrh.	Willow	<i>Salix</i> spp.
White ash	<i>Fraxinus americana</i> L.	Sassafras	<i>Sassafras albidum</i> (Nutt.) Nees
Green ash	<i>F. pennsylvanica</i> Marsh.	American basswood	<i>Tilia americana</i> L.
Pumpkin ash	<i>F. profunda</i> (Bush) Bush	White basswood	<i>T. heterophylla</i> Vent.
Blue ash	<i>F. quadrangulata</i> Michx.	Winged elm	<i>Ulmus alata</i> Michx.
Waterlocust	<i>Gleditsia aquatica</i> Marsh.	American elm	<i>U. americana</i> L.
Honeylocust	<i>G. triacanthos</i> L.	Cedar elm	<i>U. crassifolia</i> Nutt.
Kentucky coffeetree	<i>Gymnocladus dioica</i> (L.) K. Koch	Slippery elm	<i>U. rubra</i> Muhl.
American holly	<i>Ilex opaca</i> Ait.	September elm	<i>U. serotina</i> Sarg.
Black walnut	<i>Juglans nigra</i> L.	Rock elm	<i>U. thomasii</i> Sarg.

^a Scientific and common names of tree species >1.0 inch in d.b.h. occurring in the FIA sample.

^b Nomenclature (Little 1979).

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Table A.1—Output of industrial products by product and species group, Arkansas, 1999 and 2002

Product and species group	Year		Change	Change
	1999	2002		
	----- thousand cubic feet -----			percent
Saw logs				
Softwood	231,530	252,493	20,963	9.1
Hardwood	88,325	89,622	1,297	1.5
Total	319,855	342,115	22,260	7.0
Veneer logs				
Softwood	77,621	89,633	12,012	15.5
Hardwood	5,927	4,859	-1,068	-18.0
Total	83,548	94,492	10,944	13.1
Pulpwood ^a				
Softwood	182,819	134,317	-48,502	-26.5
Hardwood	102,146	78,276	-23,870	-23.4
Total	284,965	212,593	-72,372	-25.4
Composite panels				
Softwood	437	27,141	26,704	6,110.8
Hardwood	188	187	-1	-0.5
Total	625	27,328	26,703	4,272.5
Other industrial				
Softwood	2,725	3,045	320	11.7
Hardwood	28	41	13	46.4
Total	2,753	3,086	333	12.1
All industrial				
Softwood	495,132	506,629	11,497	2.3
Hardwood	196,614	172,985	-23,629	-12.0
Total	691,746	679,614	-12,132	-1.8
Byproduct output				
Softwood	220,430	251,034	30,604	13.9
Hardwood	69,230	75,317	6,087	8.8
Total	289,660	326,351	36,691	12.7
Total output				
Softwood	715,562	757,663	42,101	5.9
Hardwood	265,844	248,302	-17,542	-6.6
Total	981,406	1,005,965	24,559	2.5

^a Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills (4,636,000 cubic feet in 1999 and 3,709,000 cubic feet in 2002).

Table A.2—Roundwood receipts by product and species group, Arkansas, 1999 and 2002

Product and species group	Year		Change	Change
	1999	2002		
	<i>----- thousand cubic feet -----</i>			<i>percent</i>
Saw logs				
Softwood	263,441	285,321	21,880	8.3
Hardwood	89,150	90,393	1,243	1.4
Total	352,591	375,714	23,123	6.6
Veneer logs				
Softwood	87,509	100,895	13,386	15.3
Hardwood	7,195	6,082	-1,113	-15.5
Total	94,704	106,977	12,273	13.0
Pulpwood ^a				
Softwood	117,160	103,819	-13,341	-11.4
Hardwood	114,445	106,173	-8,272	-7.2
Total	231,605	209,992	-21,613	-9.3
Other industrial				
Softwood	2,463	28,620	26,157	1,062.0
Hardwood	0	0	0	—
Total	2,463	28,620	26,157	1,062.0
Total output				
Softwood	470,573	518,655	48,082	10.2
Hardwood	210,790	202,648	-8,142	-3.9
Total	681,363	721,303	39,940	5.9

— = negligible.

^a Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills (5,055,000 cubic feet in 1999 and 4,149,000 cubic feet in 2002).

Table A.3—Number of primary wood-using plants by industry, Arkansas, 1958 to 2002

Industry	Year							
	1958	1968	1971	1977	1987	1996	1999	2002
	<i>number</i>							
Sawmills	974	448	278	384	274	286	308	260
Veneer or plywood mills	11	12	13	8	8	10	10	10
Pulpmills	4	7	7	8	8	8	8	6
Composite panel mills	0	0	0	0	0	0	0	1
Other mills	79	104	108	72	35	15	10	11
All plants	1,068	571	406	472	325	319	336	288

Table A.4—Roundwood receipts by sawmill size, Arkansas, 1999 and 2002

Sawmill size class ^a <i>mmbf</i>	1999			2002		
	Mills ^b <i>number</i>	Volume <i>mbf</i>	<i>percent</i>	Mills ^b <i>number</i>	Volume <i>mbf</i>	<i>percent</i>
1.0 – 4.99	64	199,671	10	68	211,835	9
5.0 – 9.99	28	194,480	9	30	209,746	9
10.0 – 49.99	22	421,092	20	19	365,270	16
>50	14	1,296,794	61	15	1,496,340	66
Total	128	2,112,037	100	132	2,283,191	100

^a Based on volume received as opposed to actual capacity.

^b Mills <1.0 million board feet were not included.

Table A.5—Roundwood receipts by species and type of mill, Arkansas, 2002

Species	Type of mill					
	All mills	Sawmills	Veneer mills		Pulpmills ^a	Other mills
			Pine plywood	Other veneer		
<i>thousand cubic feet</i>						
Softwood						
Yellow pine	414,778	285,263	100,895	0	NA	28,620
White pine	58	58	0	0	NA	0
Cedar	0	0	0	0	NA	0
Cypress	0	0	0	0	NA	0
Other softwoods	0	0	0	0	NA	0
Unclassified	103,819	0	0	0	103,819	0
Total softwoods	518,655	285,321	100,895	0	103,819	28,620
Hardwood						
Blackgum and tupelo	2,052	1,451	451	150	NA	0
Soft maple	362	137	225	0	NA	0
Sweetgum	9,623	8,605	707	311	NA	0
Yellow-poplar	8,397	7,805	451	141	NA	0
Other soft hardwood	7,097	5,762	902	433	NA	0
Hickory	7,267	6,816	451	0	NA	0
Red oak	31,714	31,122	451	141	NA	0
White oak	24,150	23,559	450	141	NA	0
Other hard hardwood	5,813	5,136	677	0	NA	0
Unclassified	106,173	0	0	0	106,173	0
Total hardwoods	202,648	90,393	4,765	1,317	106,173	0
All species	721,303	375,714	105,660	1,317	209,992	28,620

NA = not applicable.

^a Collected only by softwood and hardwood and includes roundwood chipped.

Table A.6—Industrial roundwood movement by year and species group, Arkansas, 1999 and 2002

Year	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>thousand cubic feet</i>					
Softwood					
1999	495,132	94,184	400,948	69,625	470,573
2002	506,629	58,592	448,037	70,618	518,655
Hardwood					
1999	196,614	28,272	168,342	42,448	210,790
2002	172,985	24,761	148,224	54,424	202,648
All species					
1999	691,746	122,456	569,290	112,073	681,363
2002	679,614	83,353	596,261	125,042	721,303

Table A.7—Industrial roundwood movement by product and species group, Arkansas, 2002

Product and species group	Production	Exported to other States	Retained	Imported from other States	Receipts
<i>thousand cubic feet</i>					
Saw logs					
Softwood	252,493	10,495	241,998	43,323	285,321
Hardwood	89,622	5,181	84,441	5,952	90,393
Total	342,115	15,676	326,439	49,275	375,714
Veneer logs					
Softwood	89,633	4,490	85,143	15,752	100,895
Hardwood	4,859	54	4,805	1,277	6,082
Total	94,492	4,544	89,948	17,029	106,977
Pulpwood ^a					
Softwood	134,317	41,670	92,647	11,172	103,819
Hardwood	78,276	19,298	58,978	47,195	106,173
Total	212,593	60,968	151,625	58,367	209,992
Other industrial					
Softwood	30,186	1,937	28,249	371	28,620
Hardwood	228	228	0	0	0
Total	30,414	2,165	28,249	371	28,620
All products					
Softwood	506,629	58,592	448,037	70,618	518,655
Hardwood	172,985	24,761	148,224	54,424	202,648
Total	679,614	83,353	596,261	125,042	721,303

^a Includes roundwood chipped.

Table A.8—Saw-log volume by destination, source, and species group, Arkansas, 2002

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Arkansas (retained)	326,439	241,998	84,441
Exports to			
Louisiana	8,032	7,013	1,019
Mississippi	775	0	775
Missouri	1,875	96	1,779
Oklahoma	3,284	1,676	1,608
Texas	1,710	1,710	0
Total	15,676	10,495	5,181
Imports from			
Louisiana	28,530	24,945	3,585
Mississippi	491	0	491
Missouri	593	1	592
Oklahoma	9,983	8,918	1,065
Texas	9,678	9,459	219
Total	49,275	43,323	5,952

Table A.9—Veneer volume by destination, source, and species group, Arkansas, 2002

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Arkansas (retained)	89,948	85,143	4,805
Exports to			
Louisiana	4,396	4,396	0
Missouri	54	0	54
Oklahoma	94	94	0
Total	4,544	4,490	54
Imports from			
Louisiana	12,693	12,693	0
Mississippi	1,277	0	1,277
Oklahoma	1,797	1,797	0
Texas	1,262	1,262	0
Total	17,029	15,752	1,277

Table A.10—Pulpwood volume by destination, source, and species group, Arkansas, 2002^a

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Arkansas (retained)	151,625	92,647	58,978
Exports to			
Alabama	1	1	0
Georgia	18	17	1
Louisiana	32,835	27,196	5,639
Mississippi	1,425	4	1,421
Oklahoma	10,169	10,169	0
Texas	16,520	4,283	12,237
Total	60,968	41,670	19,298
Imports from			
Alabama	4	0	4
Louisiana	10,371	2,193	8,178
Mississippi	12,488	918	11,570
Missouri	1	0	1
Oklahoma	17,603	4,475	13,128
Texas	17,900	3,586	14,314
Total	58,367	11,172	47,195

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills.

Table A.11—Other industrial volume by destination, source, and species group, Arkansas, 2002^a

Destination and source	All species	Species group	
		Softwood	Hardwood
<i>thousand cubic feet</i>			
Arkansas (retained)	28,249	28,249	0
Exports to			
Louisiana	624	437	187
Mississippi	147	147	0
Missouri	207	166	41
Oklahoma	1,187	1,187	0
Total	2,165	1,937	228
Imports from			
Louisiana	295	295	0
Texas	76	76	0
Total	371	371	0

^a Includes poles, posts, mulch, firewood, log homes, charcoal, and all other industrial mills.

Table A.12—Primary mill residue volume by roundwood type, species group, and residue type, Arkansas, 2002

Roundwood type and species group	All types	Residue type			
		Bark	Coarse	Sawdust	Shavings
<i>thousand cubic feet</i>					
Saw logs					
Softwood	178,336	19,130	83,637	50,540	25,029
Hardwood	59,370	9,192	30,036	18,189	1,953
Total	237,706	28,322	113,673	68,729	26,982
Veneer logs					
Softwood	54,372	7,006	35,760	11,606	0
Hardwood	2,253	658	1,051	544	0
Total	56,625	7,664	36,811	12,150	0
Pulpwood					
Softwood	10,335	10,335	0	0	0
Hardwood	13,694	13,694	0	0	0
Total	24,029	24,029	0	0	0
Other industrial ^a					
Softwood	7,991	7,382	609	0	0
Hardwood	0	0	0	0	0
Total	7,991	7,382	609	0	0
Total					
Softwood	251,034	43,853	120,006	62,146	25,029
Hardwood	75,317	23,544	31,087	18,733	1,953
Total	326,351	67,397	151,093	80,879	26,982

^a Includes poles, pilings, posts, and other industrial products.

Table A.13—Disposal of residue at primary wood-using plants by product, species group, and type of residue, Arkansas, 1999 and 2002

Product and species group	All types		Bark		Coarse		Sawdust		Shavings	
	1999	2002	1999	2002	1999	2002	1999	2002	1999	2002
<i>thousand cubic feet</i>										
Fiber products										
Softwood	90,994	106,853	0	0	90,452	106,853	0	0	542	0
Hardwood	18,648	18,519	0	0	18,648	18,519	0	0	0	0
Total	109,642	125,372	0	0	109,100	125,372	0	0	542	0
Particleboard										
Softwood	14,321	23,868	0	0	0	455	0	7,019	14,321	16,394
Hardwood	0	13	0	0	0	0	0	13	0	0
Total	14,321	23,881	0	0	0	455	0	7,032	14,321	16,394
Charcoal/ chemical wood										
Softwood	2,065	0	0	0	2,065	0	0	0	0	0
Hardwood	0	0	0	0	0	0	0	0	0	0
Total	2,065	0	0	0	2,065	0	0	0	0	0
Sawn products										
Softwood	7,447	3,297	0	0	7,447	3,297	0	0	0	0
Hardwood	0	0	0	0	0	0	0	0	0	0
Total	7,447	3,297	0	0	7,447	3,297	0	0	0	0
Fuel										
Softwood	98,961	110,253	34,958	42,177	4,718	9,392	55,546	53,944	3,739	4,740
Hardwood	49,040	54,381	16,779	22,878	12,079	11,702	18,088	17,901	2,094	1,900
Total	148,001	164,634	51,737	65,055	16,797	21,094	73,634	71,845	5,833	6,640
Miscellaneous										
Softwood	6,642	6,763	1,572	1,676	0	9	1,176	1,183	3,894	3,895
Hardwood	1,542	1,621	533	541	456	456	442	571	111	53
Total	8,184	8,384	2,105	2,217	456	465	1,618	1,754	4,005	3,948
Not used										
Softwood	0	0	0	0	0	0	0	0	0	0
Hardwood	170	783	27	125	90	410	53	248	0	0
Total	170	783	27	125	90	410	53	248	0	0
All products										
Softwood	220,430	251,034	36,530	43,853	104,682	120,006	56,722	62,146	22,496	25,029
Hardwood	69,400	75,317	17,339	23,544	31,273	31,087	18,583	18,733	2,205	1,953
Total	289,830	326,351	53,869	67,397	135,955	151,093	75,305	80,879	24,701	26,982

Table A.14—Roundwood timber product output by product and species group, South Delta Region of Arkansas, 1999 and 2002

Product and species group	Year		Change	Change percent
	1999	2002		
	<i>----- thousand cubic feet -----</i>			<i>percent</i>
Saw logs				
Softwood	2,184	2,187	3	0.1
Hardwood	9,754	10,139	385	3.9
Total	11,938	12,326	388	3.3
Veneer logs				
Softwood	2,032	1,348	-684	-33.7
Hardwood	2,725	2,578	-147	-5.4
Total	4,757	3,926	-831	-17.5
Pulpwood ^a				
Softwood	5,383	5,003	-380	-7.1
Hardwood	16,358	8,192	-8,166	-49.9
Total	21,741	13,195	-8,546	-39.3
Composite panels				
Softwood	0	1,068	1,068	—
Hardwood	0	0	0	—
Total	0	1,068	1,068	—
Other industrial				
Softwood	0	87	87	—
Hardwood	0	0	0	—
Total	0	87	87	—
All industrial				
Softwood	9,599	9,693	94	1.0
Hardwood	28,837	20,909	-7,928	-27.5
Total	38,436	30,602	-7,834	-20.4

— = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (28,000 cubic feet in 1999 and 16,000 cubic feet in 2002).

Table A.15—Roundwood timber product output by county, product, and species group, South Delta Region of Arkansas, 2002

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
	<i>thousand cubic feet</i>											
Arkansas	391	2,536	84	1,257	0	691	278	588	0	0	29	0
Chicot	139	1,707	0	1,020	0	0	139	687	0	0	0	0
Desha	9	4,594	0	455	0	496	9	3,643	0	0	0	0
Jefferson	5,469	1,571	1,807	1,250	786	1	2,313	320	534	0	29	0
Lee	0	2,242	0	956	0	682	0	604	0	0	0	0
Lincoln	2,663	2,045	0	605	562	4	1,805	1,436	267	0	29	0
Lonoke	753	1,590	103	1,163	0	118	383	309	267	0	0	0
Monroe	113	1,518	99	1,382	0	0	14	136	0	0	0	0
Phillips	28	1,653	0	748	0	586	28	319	0	0	0	0
Prairie	128	1,453	94	1,303	0	0	34	150	0	0	0	0
All counties	9,693	20,909	2,187	10,139	1,348	2,578	5,003	8,192	1,068	0	87	0

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (16,000 cubic feet in 2002).

Table A.16—Roundwood timber product output by product and species group, North Delta Region of Arkansas, 1999 and 2002

Product and species group	Year		Change	Change
	1999	2002		
	<i>--- thousand cubic feet ---</i>			<i>percent</i>
Saw logs				
Softwood	1,277	83	-1,194	-93.5
Hardwood	6,964	7,287	323	4.6
Total	8,241	7,370	-871	-10.6
Veneer logs				
Softwood	0	0	0	—
Hardwood	945	947	2	0.2
Total	945	947	2	0.2
Pulpwood ^a				
Softwood	12	12	0	—
Hardwood	523	1,058	535	102.3
Total	535	1,070	535	100.0
Composite panels				
Softwood	0	0	0	—
Hardwood	0	0	0	—
Total	0	0	0	—
Other industrial				
Softwood	0	0	0	—
Hardwood	0	0	0	—
Total	0	0	0	—
All industrial				
Softwood	1,289	95	-1,194	-92.6
Hardwood	8,432	9,292	860	10.2
Total	9,721	9,387	-334	-3.4

— = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (30,000 cubic feet in 1999 and 20,000 cubic feet in 2002).

Table A.17—Roundwood timber product output by county, product, and species group, North Delta Region of Arkansas, 2002

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>thousand cubic feet</i>												
Clay	10	481	10	481	0	0	0	0	0	0	0	0
Craighead	8	850	8	9	0	0	0	841	0	0	0	0
Crittenden	0	488	0	488	0	0	0	0	0	0	0	0
Cross	0	1,041	0	472	0	540	0	29	0	0	0	0
Greene	8	376	8	337	0	0	0	39	0	0	0	0
Jackson	12	1,192	0	1,179	0	0	12	13	0	0	0	0
Lawrence	57	1,225	57	1,225	0	0	0	0	0	0	0	0
Mississippi	0	858	0	836	0	0	0	22	0	0	0	0
Poinsett	0	48	0	48	0	0	0	0	0	0	0	0
St. Francis	0	1,204	0	692	0	407	0	105	0	0	0	0
Woodruff	0	1,529	0	1,520	0	0	0	9	0	0	0	0
All counties	95	9,292	83	7,287	0	947	12	1,058	0	0	0	0

^a Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills (20,000 cubic feet in 2002).

Table A.18—Roundwood timber product output by product and species group, Southwest Region of Arkansas, 1999 and 2002

Product and species group	Year		Change	Change
	1999	2002		
	----- thousand cubic feet -----			percent
Saw logs				
Softwood	174,026	193,534	19,508	11.2
Hardwood	31,148	31,177	29	0.1
Total	205,174	224,711	19,537	9.5
Veneer logs				
Softwood	60,410	75,493	15,083	25.0
Hardwood	839	718	-121	-14.4
Total	61,249	76,211	14,962	24.4
Pulpwood ^a				
Softwood	138,966	96,425	-42,541	-30.6
Hardwood	73,720	53,686	-20,034	-27.2
Total	212,686	150,111	-62,575	-29.4
Composite panels				
Softwood	437	20,733	20,296	4,644.4
Hardwood	188	187	-1	-0.5
Total	625	20,920	20,295	3,247.2
Other industrial				
Softwood	2,552	2,753	201	7.9
Hardwood	0	0	0	—
Total	2,552	2,753	201	7.9
All industrial				
Softwood	376,391	388,938	12,547	3.3
Hardwood	105,895	85,768	-20,127	-19.0
Total	482,286	474,706	-7,580	-1.6

— = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (2,618,000 cubic feet in 1999 and 2,105,000 cubic feet in 2002).

Table A.19—Roundwood timber product output by county, product, and species group, Southwest Region of Arkansas, 2002

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
	<i>thousand cubic feet</i>											
Ashley	35,275	4,772	8,034	1,556	21,206	20	5,739	3,196	267	0	29	0
Bradley	18,221	7,008	9,715	1,951	2,233	5	6,006	5,052	267	0	0	0
Calhoun	15,116	4,759	7,434	1,936	3,067	4	1,944	2,819	2,671	0	0	0
Clark	22,176	2,854	14,774	1,556	2,222	0	4,341	1,298	801	0	38	0
Cleveland	22,339	4,660	8,643	2,482	6,486	17	3,451	2,161	3,205	0	554	0
Columbia	21,520	5,857	15,215	2,065	3,640	0	2,262	3,751	193	41	210	0
Dallas	29,275	3,284	10,658	1,490	7,677	66	4,797	1,728	6,143	0	0	0
Drew	20,307	4,413	1,702	927	11,170	1	6,605	3,485	801	0	29	0
Grant	23,779	2,096	11,192	1,690	1,708	16	8,743	390	2,136	0	0	0
Hempstead	15,260	3,516	9,919	667	1,510	85	3,831	2,764	0	0	0	0
Hot Spring	14,109	1,680	7,824	1,305	1,191	2	3,225	373	1,869	0	0	0
Howard	23,142	2,559	8,070	1,269	1,794	153	12,874	1,137	0	0	404	0
Lafayette	12,377	2,191	8,027	933	3,533	0	817	1,194	0	64	0	0
Little River	9,601	3,717	5,618	954	1,265	96	2,326	2,667	0	0	392	0
Miller	11,975	3,207	10,414	401	155	14	1,406	2,792	0	0	0	0
Nevada	15,109	4,889	10,355	1,202	1,364	1	3,123	3,624	267	62	0	0
Ouachita	17,388	7,438	10,588	3,032	818	1	4,285	4,405	1,602	0	95	0
Pike	19,208	3,062	9,784	1,419	1,175	102	7,562	1,541	267	0	420	0
Sevier	14,523	2,985	6,960	1,370	1,402	130	5,769	1,485	0	0	392	0
Union	28,238	10,821	18,608	2,972	1,877	5	7,319	7,824	244	20	190	0
All counties	388,938	85,768	193,534	31,177	75,493	718	96,425	53,686	20,733	187	2,753	0

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulp mills (2,105,000 cubic feet in 2002).

Table A.20—Roundwood timber product output by product and species group, Ouachita Region of Arkansas, 1999 and 2002

Product and species group	Year		Change	Change
	1999	2002		
	----- thousand cubic feet -----			percent
Saw logs				
Softwood	42,273	44,993	2,720	6.4
Hardwood	8,502	8,118	-384	-4.5
Total	50,775	53,111	2,336	4.6
Veneer logs				
Softwood	15,179	12,792	-2,387	-15.7
Hardwood	1,193	338	-855	-71.7
Total	16,372	13,130	-3,242	-19.8
Pulpwood ^a				
Softwood	25,842	20,649	-5,193	-20.1
Hardwood	6,590	7,281	691	10.5
Total	32,432	27,930	-4,502	-13.9
Composite panels				
Softwood	0	5,340	5,340	—
Hardwood	0	0	0	—
Total	0	5,340	5,340	—
Other industrial				
Softwood	107	38	-69	-64.5
Hardwood	0	0	0	—
Total	107	38	-69	-64.5
All industrial				
Softwood	83,401	83,812	411	0.5
Hardwood	16,285	15,737	-548	-3.4
Total	99,686	99,549	-137	-0.1

— = negligible.

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (1,204,000 cubic feet in 1999 and 793,000 cubic feet in 2002).

Table A.21—Roundwood timber product output by county, product, and species group, Ouachita Region of Arkansas, 2002

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
<i>thousand cubic feet</i>												
Garland	15,468	1,398	8,356	1,171	4,020	8	956	219	2,136	0	0	0
Logan	3,458	620	1,409	608	0	0	2,049	12	0	0	0	0
Montgomery	8,012	1,703	5,727	1,348	1,488	0	797	355	0	0	0	0
Perry	6,834	435	2,527	408	600	10	2,906	17	801	0	0	0
Polk	14,326	5,166	9,024	1,952	1,342	0	3,922	3,214	0	0	38	0
Pulaski	3,411	728	1,714	490	239	201	1,458	37	0	0	0	0
Saline	20,001	1,502	8,458	804	3,387	97	6,020	601	2,136	0	0	0
Scott	3,036	2,409	2,488	646	0	0	548	1,763	0	0	0	0
Sebastian	322	5	297	0	0	0	25	5	0	0	0	0
Yell	8,944	1,771	4,993	691	1,716	22	1,968	1,058	267	0	0	0
All counties	83,812	15,737	44,993	8,118	12,792	338	20,649	7,281	5,340	0	38	0

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (793,000 cubic feet in 2002).

Table A.22—Roundwood timber product output by product and species group, Ozark Region of Arkansas, 1999 and 2002

Product and species group	Year		Change	Change
	1999	2002		
	---- thousand cubic feet ----			percent
Saw logs				
Softwood	11,770	11,696	-74	-0.6
Hardwood	31,957	32,901	944	3.0
Total	43,727	44,597	870	2.0
Veneer logs				
Softwood	0	0	0	—
Hardwood	225	278	53	23.6
Total	225	278	53	23.6
Pulpwood ^a				
Softwood	12,616	12,228	-388	-3.1
Hardwood	4,955	8,059	3,104	62.6
Total	17,571	20,287	2,716	15.5
Composite panels				
Softwood	0	0	0	—
Hardwood	0	0	0	—
Total	0	0	0	—
Other industrial				
Softwood	66	167	101	153.0
Hardwood	28	41	13	46.4
Total	94	208	114	121.3
All industrial				
Softwood	24,452	24,091	-361	-1.5
Hardwood	37,165	41,279	4,114	11.1
Total	61,617	65,370	3,753	6.1

— = negligible.

^a Includes roundwood delivered to nonpulpmills, then chipped and sold to pulpmills (756,000 cubic feet in 1999 and 775,000 cubic feet in 2002).

Table A.23—Roundwood timber product output by county, product, and species group, Ozark Region of Arkansas, 2002

County	All products		Saw logs		Veneer logs		Pulpwood ^a		Composite panels		Other industrial	
	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood	Soft-wood	Hard-wood
	<i>thousand cubic feet</i>											
Baxter	283	786	282	786	0	0	1	0	0	0	0	0
Benton	96	1,743	0	1,724	0	0	0	3	0	0	96	16
Boone	83	1,050	83	1,043	0	0	0	7	0	0	0	0
Carroll	160	1,255	88	1,223	0	0	1	7	0	0	71	25
Cleburne	2,931	1,583	296	1,015	0	0	2,635	568	0	0	0	0
Conway	3,721	2,186	2,001	0	0	0	1,720	2,186	0	0	0	0
Crawford	106	1,534	65	1,528	0	0	41	6	0	0	0	0
Faulkner	944	152	0	0	0	150	944	2	0	0	0	0
Franklin	328	1,257	254	1,244	0	0	74	13	0	0	0	0
Fulton	369	1,053	352	1,023	0	30	17	0	0	0	0	0
Independence	807	4,322	560	1,973	0	1	247	2,348	0	0	0	0
Izard	554	1,363	451	1,363	0	0	103	0	0	0	0	0
Johnson	2,567	1,886	1,817	883	0	0	750	1,003	0	0	0	0
Madison	79	2,093	79	2,087	0	0	0	6	0	0	0	0
Marion	206	1,034	206	1,025	0	0	0	9	0	0	0	0
Newton	323	2,395	318	2,355	0	0	5	40	0	0	0	0
Pope	4,273	1,485	2,515	1,457	0	0	1,758	28	0	0	0	0
Randolph	72	1,357	72	1,357	0	0	0	0	0	0	0	0
Searcy	511	1,536	298	1,510	0	0	213	26	0	0	0	0
Sharp	218	1,822	218	1,801	0	21	0	0	0	0	0	0
Stone	909	3,959	463	2,672	0	0	446	1,287	0	0	0	0
Van Buren	2,853	721	839	679	0	0	2,014	42	0	0	0	0
Washington	65	1,897	65	1,891	0	0	0	6	0	0	0	0
White	1,633	2,810	374	2,262	0	76	1,259	472	0	0	0	0
All counties	24,091	41,279	11,696	32,901	0	278	12,228	8,059	0	0	167	41

^a Includes roundwood delivered to nonpulp mills, then chipped and sold to pulpmills (775,000 cubic feet in 2002).

Table A.24—Total roundwood output by product, species group, and source of material, Arkansas, 2002

Product and species group	All sources	Total	Growing-stock trees		Other sources
			Sawtimber	Poletimber	
<i>thousand cubic feet</i>					
Saw logs					
Softwood	252,493	236,463	227,004	9,459	16,030
Hardwood	89,622	87,524	82,272	5,251	2,098
Total	342,115	323,987	309,277	14,710	18,128
Veneer logs and bolts					
Softwood	89,633	86,917	84,309	2,608	2,716
Hardwood	4,859	4,773	4,773	0	86
Total	94,492	91,690	89,083	2,608	2,802
Pulpwood					
Softwood	134,317	111,385	56,232	55,153	22,932
Hardwood	78,276	72,435	41,632	30,803	5,841
Total	212,593	183,820	97,864	85,956	28,773
Composite panels					
Softwood	27,141	22,076	10,155	11,921	5,065
Hardwood	187	166	75	91	21
Total	27,328	22,242	10,230	12,012	5,086
Poles and posts					
Softwood	2,878	2,363	2,159	204	515
Hardwood	0	0	0	0	0
Total	2,878	2,363	2,159	204	515
Other miscellaneous					
Softwood	167	152	114	38	15
Hardwood	41	26	20	7	15
Total	208	178	134	45	30
Total industrial products					
Softwood	506,629	459,356	379,974	79,382	47,273
Hardwood	172,985	164,924	128,771	36,153	8,061
Total	679,614	624,280	508,745	115,535	55,334
Fuelwood					
Softwood	3,481	2,875	1,898	978	606
Hardwood	24,181	22,126	14,764	7,361	2,055
Total	27,662	25,001	16,662	8,339	2,661
All products					
Softwood	510,110	462,232	381,872	80,360	47,878
Hardwood	197,166	187,049	143,536	43,514	10,117
Total	707,276	649,281	525,408	123,874	57,995

Numbers in rows and columns may not sum to totals due to rounding.

Table A.25—Total roundwood output by species group, survey region, and ownership class, Arkansas, 2002

Species group and survey region	Total	Ownership class		
		Public	Forest industry	Nonindustrial private
<i>thousand cubic feet</i>				
Softwood				
South Delta	9,760	207	4,111	5,442
North Delta	95	0	0	95
Southwest	391,611	3,219	234,686	153,706
Ouachita	84,386	14,629	35,112	34,645
Ozark	24,258	3,004	833	20,421
Total softwoods	510,110	21,059	274,741	214,309
Hardwood				
South Delta	23,831	1,074	7,719	15,038
North Delta	10,591	2,025	0	8,566
Southwest	97,754	2,358	37,626	57,769
Ouachita	17,938	3,208	3,604	11,126
Ozark	47,052	3,242	400	43,410
Total hardwoods	197,166	11,908	49,350	135,908
All species	707,276	32,967	324,091	350,218

Numbers in rows and columns may not sum to totals due to rounding.

Table A.26—Total roundwood output by species group, detailed species group, and product, Arkansas, 2002

Species group and detailed species group	Total	Product						
		Saw logs	Veneer logs	Pulpwood	Composite panels	Poles and posts	Other miscellaneous	Fuel- wood
<i>thousand cubic feet</i>								
Softwood								
Cedar	3,885	2,259	150	1,317	5	20	107	27
Loblolly-shortleaf pine	503,424	249,029	89,336	131,871	26,864	2,829	60	3,435
Other yellow pines	951	724	0	221	0	0	0	6
Cypress	1,849	481	147	909	272	29	0	12
Total softwoods	510,110	252,493	89,633	134,317	27,141	2,878	167	3,481
Hardwood								
Soft maple	1,843	882	23	709	2	0	1	226
Hard maple	389	261	0	81	0	0	0	48
Other birch	175	117	2	34	0	0	0	21
Hickory	18,216	7,996	965	7,011	8	0	2	2,234
Beech	575	190	50	264	1	0	0	71
Ash	6,038	2,610	404	2,282	2	0	0	740
Black walnut	317	196	2	80	0	0	1	39
Sweetgum	34,040	11,176	729	17,900	62	0	0	4,174
Yellow-poplar	19	15	0	2	0	0	0	2
Blackgum-tupelo	5,779	2,938	32	2,095	5	0	0	709
Sycamore	1,841	1,060	63	490	1	0	0	226
Cottonwood	2,178	1,175	106	630	0	0	0	267
Black cherry	693	283	5	319	1	0	0	85
Select white oaks	10,931	5,030	193	4,347	14	0	5	1,341
Other white oaks	52,302	25,284	1,110	19,432	44	0	18	6,414
Select red oaks	25,058	12,662	381	8,918	17	0	6	3,074
Other red oaks	23,435	11,857	273	8,403	22	0	7	2,874
Basswood	20	9	1	7	0	0	0	2
Elm	4,224	1,949	129	1,621	6	0	0	518
Other Eastern hardwoods	9,093	3,932	391	3,651	2	0	1	1,116
Total hardwoods	197,166	89,622	4,859	78,276	187	0	41	24,181
All species	707,276	342,115	94,492	212,593	27,328	2,878	208	27,662

Numbers in rows and columns may not sum to totals due to rounding.

Table A.27—Total roundwood output by species group, detailed species group, and ownership class, Arkansas, 2002

Species group and detailed species group	Total	Ownership class		
		Public	Forest industry	Nonindustrial private
<i>thousand cubic feet</i>				
Softwood				
Cedar	3,885	392	1,047	2,446
Loblolly-shortleaf pine	503,424	20,648	273,460	209,316
Other yellow pines	951	0	0	951
Cypress	1,849	19	234	1,596
Total softwoods	510,110	21,059	274,741	214,309
Hardwood				
Soft maple	1,843	90	454	1,298
Hard maple	389	17	52	320
Other birch	175	0	14	161
Hickory	18,216	1,132	3,604	13,480
Beech	575	0	179	397
Ash	6,038	618	1,690	3,731
Black walnut	317	17	20	280
Sweetgum	34,040	1,001	11,072	21,968
Yellow-poplar	19	0	0	19
Blackgum-tupelo	5,779	376	1,222	4,181
Sycamore	1,841	92	280	1,468
Cottonwood	2,178	1,087	664	426
Black cherry	693	80	213	400
Select white oaks	10,931	1,040	2,415	7,476
Other white oaks	52,302	2,481	11,472	38,349
Select red oaks	25,058	1,886	6,623	16,549
Other red oaks	23,435	1,270	4,950	17,215
Basswood	20	0	4	16
Elm	4,224	262	1,197	2,764
Other Eastern hardwoods	9,093	457	3,224	5,412
Total hardwoods	197,166	11,908	49,350	135,908
All species	707,276	32,967	324,091	350,218

Numbers in rows and columns may not sum to totals due to rounding.



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Bentley, J.W.; Howell, M.; Johnson, T.G. 2005. Arkansas' timber industry—an assessment of timber product output and use, 2002. Resour. Bull. SRS-99. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 43 p.

In 2002, roundwood output from Arkansas' forests totaled 680 million cubic feet. Mill byproducts generated from primary manufacturers were 326 million cubic feet. Almost all plant residues were used primarily for fuel and fiber products. Saw logs were the leading roundwood product at 342 million cubic feet; pulpwood ranked second at 213 million cubic feet; and veneer logs were third at 94 million cubic feet. The number of primary processing plants was 288 in 2002. Receipts for those mills totaled 721 million cubic feet.

Keywords: Pulpwood, residues, roundwood, saw logs, veneer logs, wood movement.

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Forest Service

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